NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T

(pursuant to NAC 445A.236)

Permittee: United States General Services Administration
600 Las Vegas Boulevard South, Suite 550
Las Vegas, Nevada 89101

Permit: NV0022942 - Renewal

Location: Lloyd D. George United States Courthouse
401 Las Vegas Boulevard South
Las Vegas, Clark County, Nevada 89101

Latitude: 36° 09' 50" N; Longitude: 115° 08' 40" W

Township 20 S, Range 61 E, Section 34 MDB&M

Flow: Permitted: 49,500 gallons per day (gpd) – Daily Maximum
25,000 gpd – 30-Day Average

Reported in Application: 52.3 gpd – Daily Maximum
34.7 gpd – 30-Day Average

General: The Permittee has applied for a National Pollutant Discharge Elimination System (NPDES) permit, NV0022942, renewal to continue to discharge a daily maximum of 49,500 gpd of treated dewatering water to the Las Vegas Wash via the Nevada Department of Transportation (NDOT) stormdrain system and Las Vegas Creek. Construction dewatering started under temporary permit TNEV98078, issued to J.A. Jones Construction Company, and continued under NV0022942, issued February 8, 1999 to J.A. Jones. On May 24, 2000, the permit was transferred to the current Permittee.

Prior to dewatering, groundwater was located at a depth of approximately eight feet below grade at the site. The groundwater reportedly contains benzene, toluene, ethylbenzene, xylene (the BTEX compounds typical of gasoline contamination), perchloroethylene (PCE), and total petroleum hydrocarbons (TPH). The permit requires no monitoring of the groundwater prior to treatment and there is no pretreatment groundwater quality data in the 1998 or 2004 permit applications, but the application states that these contaminants are believed to be present. The Courthouse contains sub-level parking and basement areas with floors located below the level of the groundwater. To prevent leakage into the sub-level areas, two passive sub-floor drain systems were installed, one beneath the bottom floor of the building, the other surrounding the exterior building foundation, to collect the groundwater at approximately two feet below the base of the sub-level floor.

Water collected by the passive drain systems is discharged to a concrete sump located at the south end of the site. The water is then pumped to a granulated activated carbon filtering system that is designed to remove volatile organic compounds and dissolved petroleum hydrocarbons from a maximum of 50,000 gpd. The treated water is discharged into the stormdrain located at the northeast corner of the intersection of Las Vegas Boulevard and Clark Avenue. The stormdrain system along Las Vegas Boulevard is owned and maintained by NDOT. The treatment system was constructed in a concrete vault with the base eight feet below the original grade.
Contaminated groundwater is pumped from the collection sump to a 430-gallon polyethylene influent batch

tank. The water from the batch tank is pumped through two 100-micron silt filters set in series, then into one of two in-parallel 2,000-pound carbon filter units, to the settling tank, or discharged directly to the stormdrain. The water drains from the bottom of the units and is discharged from the vault via a six-inch diameter PVC pipe that carries the water by gravity drainage to the Las Vegas Boulevard stormdrain.

The system includes a second 430-gallon tank, the settling tank, that is used to collect treated water generated during compliance sampling and during maintenance operations, such as back flushing the carbon units. Water from the settling tank can be transferred to the influent batch tank or discharged directly to the storm sewer.

The permit also includes the discharge of stormwater from the basement parking garage. This runoff is collected and diverted through a 750-gallon oil-water separator before discharge to the stormdrain via the 6-inch PVC pipe.

Receiving Water Characteristics: The treated effluent is discharged to the Las Vegas Boulevard stormdrain, where it flows to the Las Vegas Wash via Las Vegas Creek.

The beneficial uses of the Las Vegas Wash from Telephone Line Road to confluences of discharges from Clark County and City of Las Vegas wastewater treatment plants are cited at Nevada Administrative Code (NAC) 445A.198 as irrigation, watering of livestock, recreation not involving contact with the water, maintenance of a freshwater marsh, propagation of wildlife, and propagation of aquatic life, excluding fish. This section does not preclude the establishment of a fishery.

Water quality standards for this segment of the Wash are cited at NAC 445A.199. Total Maximum Daily Loads (TMDLs) for the Las Vegas Wash were established for total phosphorus and total ammonia in 1989 and became effective in 1994 and 1995, respectively.

Discharge Characteristics: The discharge consists of treated groundwater from the foundation dewatering system and treated stormwater from the basement parking garage. The groundwater reportedly contains trace amounts benzene, toluene, ethylbenzene, xylene, PCE, and TPH. Because the stormwater is collected in the parking garage, the stormwater must be treated in an oil-water separator prior to discharge. The stormwater discharge volume and quality are not monitored.

Over the term of the permit, the discharge from the groundwater treatment system has averaged 2,200 gpd. The flow has dropped significantly in recent years with average annual flows of 32 gpd and 33 gpd in 2002 and 2003, respectively. The highest daily maximum discharges of 8,300 gpd and 8,250 gpd occurred in second quarter of 1999 and the fourth quarter of 2000, respectively.

Over the five-year term of the permit, benzene, toluene, ethylbenzene, total xylene, PCE, and methyl tert-butyl ether (MTBE) have not been detected in the discharge at detection limits of 5.0 µg/L, 5.0 µg/L, 5.0 µg/L, 10 µg/L, 5.0 µg/L, and 5.0 µg/L, respectively. TPH has been detected twice, 0.56 mg/L and 0.93 mg/L, in the first and second quarters of 2003.

The initial permit included two other parameters, total inorganic nitrogen as nitrogen (TIN) and pH, with effluent discharge limitations. The five-year TIN concentration has averaged 2.9 mg/L with a maximum concentration of 4.1 mg/L in the second quarter of 2000. The five-year average pH of the discharge was 7.57 standard units (SU) with one reading, 4.79 SU in December 2003, outside of the permitted 6.5 SU to 9.0 SU range.

The average total dissolved solids (TDS) concentration of the discharge was 2,163 mg/L with a maximum of 3,270 mg/L in the third quarter of 2000. The majority of the TIN is nitrate with the TIN and nitrate concentrations being equal for most analyses; total ammonia is not frequently detected. The average total

phosphorus as phosphorus (TP) concentration in the discharge was 0.09 mg/L over the five-year term of the permit.

Proposed Effluent Limitations: During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge from Outfall 001, the six-inch diameter PVC pipe that flows to the Las Vegas Boulevard stormdrain. The discharge shall consist of treated groundwater from the foundation dewatering system and treated stormwater from the basement parking garage only.

a. Effluent samples taken in compliance with the monitoring requirements specified below shall be taken at:

i. Totalizing flow meter between the influent batch tank and the carbon vessels;

ii. The sample port between the two carbon units in series; and

iii. The discharge of any water that has not flowed through the carbon vessels, including but not limited to discharge from the vault sump, the settling tank, or the influent batch tank.

b. The discharge shall be limited and monitored by the Permittee as specified below:

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30-Day Average	**Daily Maximum**	**Sample Locations**	**Measurement Frequency**	**Sample Type**
Flow (MGD)	0.025	0.0495	i.	Continuous	Flow Meter
	Monitor and Report (gpd)		iv.	Each Occurrence	Estimate
Benzene (µg/L)	---	5	iii.	See Note 1	Discrete
Ethylbenzene (µg/L)	---	100			
Toluene (µg/L)	---	100			
Xylenes, Total (µg/L)	---	200			
Methyl tert-butyl ether (µg/L)	---	20			
Perchloroethylene (µg/L)	---	5			
Volatile Organic Compounds EPA Method 624 - report all parameters (µg/L)	Monitor and Report[1]		ii.	Quarterly	Discrete
Total Petroleum Hydrocarbons, Extractable, EPA Method SW8015M (mg/L)	Monitor and Report[1]		ii.	Quarterly	Discrete
	---	1.0	iii.	See Note 1	
Total Inorganic Nitrogen -N (mg/L)	---	20.0	ii.	Quarterly	Discrete
Total Dissolved Solids (mg/L)	Monitor and Report		ii.	Quarterly	Discrete
Total Ammonia -N (mg/L)	Monitor and Report		ii.	Quarterly	Discrete
Total Phosphorus -P (mg/L)	Monitor and Report		ii.	Quarterly	Discrete
pH (standard units)	6.5 ≤ pH ≤ 9.0		ii.	Monthly	Meter Reading

Notes:

[1]: Any VOC or TPH detection shall require carbon replacement within three weeks of obtaining the data from the laboratory. If the carbon cannot be replaced within three weeks of data receipt, the Permittee shall initiate every other day sampling and analysis of the discharge water from the second carbon column. Exceedance of the 1.0 mg/L TPH standard or any of the listed permit VOC standards in the discharge from the second carbon column shall be a permit violation.

MGD: Million gallons per day.
µg/L: Micrograms per liter.
mg/L: Milligrams per liter.
-N: As nitrogen.
-P: As phosphorus.
gpd: Gallons per day.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the schedule of compliance.

a. Within ninety (90) days of the permit effective date, the Permittee shall submit a revised Operations and Maintenance Manual to the Division for review and approval.

Rationale for Permit Requirements: Monitoring requirements for the parameters specified in the Proposed Effluent Limitations table have been established in the draft permit to ensure that the receiving water, the Las Vegas Wash, is not degraded as a result of the Permittee's dewatering discharge.

Flow: The daily maximum flow is limited by the design capacity of the treatment system and the fee categories of NAC 445A.232.

Volatile Organic Compounds (VOC): Quarterly analysis of the EPA Method 624 VOCs is required to verify VOC removal in the first carbon column. If carbon column one breakthrough has occurred, the Permittee has three weeks to replace the carbon or every other day sampling and VOC analysis at the sampling port downgradient of the second carbon column is required. Benzene, ethylbenzene, toluene, total xylenes, and PCE are reported as "expected to be present at the site" in the permit application.

Methyl tert-butyl ether (MTBE): The Division has adopted 20 µg/L as the action level in groundwater for sites in close proximity to receptors and/or sensitive environments. This groundwater standard is used for all discharges to surface waters.

Total Petroleum Hydrocarbons (TPH): The shallow groundwater in the vicinity of the facility has reportedly been contaminated by a hydrocarbon release. Monitoring, similar to the VOC monitoring, is required to verify proper treatment prior to discharge.

Total Inorganic Nitrogen as Nitrogen (TIN): NAC 445A.199 includes a requirement to maintain existing higher quality TIN standard of 95% of the samples $\leq$ 20.0 mg/L.

Total Dissolved Solids (TDS): NAC 445A.199 includes a single value at 180ºC TDS standard for beneficial uses of $\leq$ 3,000 mg/L. The TDS concentration of the groundwater at the time of permit renewal application was 2,190 mg/L. The shallow groundwater with naturally occurring elevated TDS levels would flow to the Wash, if it was not intercepted by the dewatering system, therefore, the TDS standard is not applied to dewatering and shallow groundwater remediation discharges in this area.

This permit is for the interception, treatment, and passage of groundwater and thus is exempted under the Colorado River Basin Salinity Control Forum's policy on groundwater interception.

Total Ammonia as Nitrogen: A total ammonia TMDL of 970 lb/day has been established for the Las Vegas Bay/Wash. Based on the low concentrations of total ammonia in groundwater and the State's de minimis policy of exempting discharges of less than 1.0 lb/day total ammonia from the TMDL analysis, the total ammonia load is not expected to be an issue and has not been limited in the draft permit.

The loading contribution of this constituent will continue to be monitored and reported so it can be included with analyses of other discharges and compared to the Las Vegas Wash TMDL, if necessary.

Total Phosphorus as Phosphorus (TP): In 1989, a TP TMDL of 434 lb/day was established for the Las Vegas Bay/Wash. The waste load allocations (WLAs) set are applicable for only April through September and were

based on a target concentration of 0.64 mg/L. WLAs have been assigned only to the Cities of Las Vegas and Henderson and the Clark County Sanitation District.

Based on the State's de minimis policy of exempting discharges of less than 1 lb/day TP from the TMDL analysis, a WLA has not been assigned to this Permittee. At the permitted maximum 30-day flow of 0.025 MGD, the TP concentration in the discharge must exceed 4.80 mg/L to violate the 1 lb/day de minimus loading threshold. Therefore, TP concentrations and loads have not been included in the permit.

The loading contribution of this constituent will continue to be monitored and reported so it can be included with analyses of other discharges and compared to the Las Vegas Wash TMDL, if necessary.

pH: NAC 445A.199 includes a single value pH water quality standard for beneficial uses within the range of 6.5 – 9.0 SU.

Schedule of Compliance Item I.A.17.b.: The treatment system was designed with two carbon units in parallel. The system is being modified to operate the two carbon units in series with a sampling port between the carbon units. As a result of this modification to the treatment system and the monitoring location, the Operations and Maintenance Manual must be revised.

Proposed Determination: The Division has made the tentative determination to issue the proposed permit. The proposed permit will be for a term of five (5) years from the expiration date of the previous permit, February 8, 2004.

Procedures for Public Comment: The Notice of the Division's intent to issue a permit authorizing the facility to continue to discharge to the Las Vegas Wash via the Las Vegas Boulevard stormdrain system and Las Vegas Creek subject to the conditions contained within the permit, is being sent to the **Las Vegas Review-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. July 26, 2004, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX, or any interested agency, person, or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Public hearings granted by the Division shall be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Bruce Holmgren
June 2004